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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,382	07/14/2003	Scott R. Velazquez	301496.1003-116	5431

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THOMAS O. HOOVER, ESQ.  
BOWDITCH & DEWEY, LLP  
161 Worcester Road  
P.O. Box 9320  
Framingham, MA 01701-9320

EXAMINER
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ISSING, GREGORY C

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 03/31/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/619,382

Applicant(s)

VELAZQUEZ ET AL.

Examiner

Gregory C. Issing

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 8-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to adequately disclose elements and operational steps involved in an acoustic communication system.

The application fails to provide a best mode of operation with respect to the claims as now presented. The application does not provide an adequate written description of the invention for use in an acoustic communication system. The mere sentence "(f)urthermore, the invention can be embodied in acoustic or optical communications systems" does not provide an enabling disclosure nor a best mode operation.

Claim 39 is insufficiently disclosed since the specification fails to describe an "acoustic network". The use of an antenna array for receiving acoustic signals is not adequately disclosed.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 10, 11, 19, 21, 28 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 11, 21, and 29, the claims are indefinite since it is not clear how an antenna array is used to receive acoustic signals. In claims 10, 19, and 28, it is not clear how a radio frequency beam is utilized in an acoustic system. If the signal is a radio frequency beam, how is the system an acoustic system?

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-73 of U.S. Patent No. 6,593,880. Although the conflicting claims are not identical, they are not patentably distinct from each other because there is nothing in the instant specification that would distinguish the "acoustic" communication system of the instant claims from the communication system of the patented claims.

7. Claims 1-39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-73 of U.S. Patent No. 6,593,880 in view of Greenspan. Greenspan in col. 4, par. 1, teaches the conventionality of using beamforming in communications systems including radio frequency as well as acoustic frequency communication.

8. Claims 36-39 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 56-59 of prior U.S. Patent No. 6,593,880. This is a double patenting rejection.

There is nothing in the specifications that would distinguish the two sets of claims, i.e., the patented claims to a communication system and the application claims to an acoustic communication system with no particulars of the acoustic communication system other than an intended use. Thus, the scope of the claims is identical.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

10. Claims 36-39 are rejected under 35 U.S.C. 102(b) as being anticipated by any one of Currivan et al, Odell et al or Lipschutz.

Currivan et al disclose a complex adaptive equalizer implementing an FIR filter function on an ASIC, see Figures 1 and 2. Odell et al disclose the claimed acoustic beamformer on an

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integrated circuit, see Figures 2 and 3. Lipschutz discloses the claimed phased array beamformer using a programmable FIR digital filter, see Figures 1 and 2.

11. Claims 36-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Wright et al. Wright et al disclose the claimed beamformer including a programmable FIR filter and programmable complex multiplier, see Figure 2b, circuit R-100, Figure 3 and Figure 4.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bartholomew disclose an antenna system and method wherein a mobile station and a base station communicate with one another using directional antenna arrays wherein positional information with respect to the each other is used to provide adaptive control of the directional beam.

Weis discloses the use of phased array antennas at each of a cellular base station and a mobile device in order to communicate on the same frequency and channel without interfering with other mobile device's communications. Each provides a highly directive communication beam.

Swales et al disclose an adaptive multi-beam beamformer for a communication base station communicating with mobile devices, including narrow directional beam-steering and null steering.

Dimos et al disclose an interference canceller including an adaptive transversal filter, i.e. an FIR filter.

Greenspan discloses a mobile communication device including an adaptive antenna array that is additionally controlled on the basis of position information to form and steer a beam in the

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direction of sources while minimizing interference. Moreover, the system is applicable to both radio wave or acoustic wave communications.

Elko et al disclose an acoustic array and an adaptive beamformer using a transversal filter.

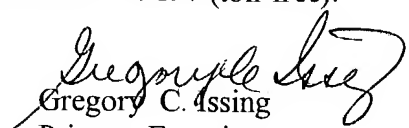
Hauser et al discloses a monolithic programmable FIR filter for use in signal detection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (703)-306-4156.

The examiner can normally be reached on Mon-Thurs 6:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (703)-306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Gregory C. Issing  
Primary Examiner  
Art Unit 3662

gci  
3/29/2004